

CLAIMS:

1. A method of synthesizing a first sound signal based on a second sound signal, the first sound signal having a required first fundamental frequency and the second sound signal having a second fundamental frequency, the method comprising the steps of:
 - determining of required pitch bell locations in the time domain of the first
 - 5 sound signal, the pitch bell locations being distanced by one period of the first fundamental frequency,
 - providing of pitch bells by windowing the second sound signal on pitch bell locations in the time domain of the second sound signal, the pitch bell locations being distanced by one period of the second fundamental frequency,
 - 10 - randomly selecting of a pitch bell from the provided pitch bells for each of the required pitch bell locations,
 - performing an overlap and add operation on the selected pitch bells for synthesizing the first signal.
- 15 2. The method of claim 1, whereby the second sound signal is a hybrid sound comprising a noisy and periodic component.
3. The method of claims 1 or 2, the second sound signal being a voiced fricative sound signal.
- 20 4. The method of any one of the preceding claims 1, 2 or 3, the second sound signal being a voiced sound signal and whereby a raised cosine is used for windowing of the second sound signal.
- 25 5. The methods of any one of the preceding claims 1, 2 or 3, the second sound signal being an unvoiced sound signal and whereby a sine window is used for windowing of the second sound signal.

6. The method of any one of the preceding claims 1 to 5, the second sound signal having spectrally alike periods, the spectrally alike periods having basically the same information content.

5 7. The method of any one of the preceding claims 1 to 6, the required first fundamental frequency and the second fundamental frequency being substantially the same.

8. A computer program product, in particular digital storage medium, comprising program means for synthesizing of a first sound signal based on a second sound signal, the
10 first sound signal having a required first fundamental frequency and the second sound signal having a second fundamental frequency, the program means being adapted to perform the steps of:

- determining of required pitch bell locations in the time domain of the first sound signal, the pitch bell locations being distanced by one period of the first fundamental
15 frequency,
- providing of pitch bells by windowing the second sound signal on pitch bell locations in the time domain of the second sound signal, the pitch bell locations being distanced by one period of the second fundamental frequency,
- randomly selecting of a pitch bell from the provided pitch bells for each of the
20 required pitch bell locations,
- performing an overlap and add operation on the selected pitch bells for synthesizing the first signal.

9. A computer system, in particular text-to-speech synthesis system, for
25 synthesizing a first sound signal based on a second sound signal, the first sound signal having a required first fundamental frequency and the second sound signal having a second fundamental frequency, the computer system comprising:

- means for determining of required pitch bell locations in the time domain of the first sound signal, the pitch bell locations being distanced by one period of the first
30 fundamental frequency,
- means for providing of pitch bells by windowing the second sound signal on pitch bell locations in the time domain of the second sound signal, the pitch bell locations being distanced by one period of the second fundamental frequency,

- means for randomly selecting of a pitch bell from the provided pitch bells for each of the required pitch bell locations,
- means for performing an overlap and add operation on the selected pitch bells for synthesizing the first signal.

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10. The computer system of claim 9 further comprising means for storing of sound classification data, the means for storing of sound classification data being adapted to store data being indicative of an interval containing the second sound signal within an original sound signal.

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11. A synthesizing signal comprising a number of pitch bells which are overlapped and added, each of the pitch bells being randomly selected from a set of pitch bells which are obtained by windowing of an original sound signal on pitch bell locations in the time domain of the second sound signal, the pitch bell locations being distanced by one

15 period of the fundamental frequency.